

REMARKS/ARGUMENTS

This application has been amended in a manner that is believed to place it in condition for allowance at the time of the next Official Action.

Claims 1-28 have been cancelled. New claims 29-84 have been added. Claims 29-41 are directed to a method for activating T lymphocytes. The method comprises contacting a T lymphocyte with an effective amount of a compound comprising at least one phosphoepoxide group. Support for new claims 29-41 may be found in original claims 1 and 2. Original claims 1 and 2 were directed to the "use" of the compounds of the present invention.

New claims 42-46 are directed to the compounds of the present invention. Support for new claims 42-46 may be found in original claims 3-11.

New claims 47-61 recite a composition capable of being administered to a primate. Support for new claims 47-61 may be found in original claims 15-19.

As to new claims 62-81, claims 62-81 are directed to methods for activating lymphocytes in primates or vertebrates comprising administering an effective amount of the compound of the present invention. Support for new claims 62-81 may be found in original claims 1-7, 9-11, and 15-28. Moreover, the Examiner's attention is respectfully directed to the present specification

at pg. 18, line 15 to pg. 23, line 15, wherein the specification discusses the activation of Ty982 lymphocytes.

Claims 82-84 are directed to a process for producing the compound of the present invention. Support for claims 82-84 correspond may be found in original claims 12-14. Thus, it is believed that no new matter has been added to the present application.

In the outstanding Official Action, the restriction requirement imposed in the Official Action of August 27, 2002 was maintained. While Applicants note that the claims no longer recite a phosphoepoxide composition having the structure recited in claim 8, Applicants traverse the assertion set forth by the Official Action that the specification at page 5, lines 9-24 concede that MUEHLBACHER et al. teach a compound with the characteristics of a compound of original claim 1.

Rather, the specification states that MUEHLBACHER et al. "already describe a compound according to the formula (2) in which R1 is CH3 and N=2, as well as in the *in vitro* action thereof as an enzyme inhibitor on isopentenyl pyrophosphate isomirase purified from *claviceps purpurea*." Thus, while MUEHLBACHER et al. may disclose certain components of formula 1, Applicants believe that the article fails to disclose or suggest the characteristics and potential uses of such a compound.

Claims 12-16 and 24 were objected to for containing several informalities. It is believed that the present amendment obviates these objections.

As noted above, claims 12-16 and 24 have been canceled. It is believed that new claims 29-84 have been drafted in a manner that obviates these contentions.

In the outstanding Official Action, claims 1, 2, 6, 7, 9, 11, 16, 17 and 21-24 were rejected under 35 USC §112, first paragraph, for allegedly being based on a non-enabling disclosure. This rejection is respectfully traversed.

In imposing the rejection, the Official Action alleged that the present disclosure does not reasonably provide enablement for the use of the compositions and compounds for the therapy, prevention, or curative treatment of any pathological conditions. However, the Official Action stated on page 7 that the rejection could be overcome by removing the therapeutic, disease prevention, and disease curing recitations from the claims.

Applicants believe that the present amendment obviates the contentions of the outstanding Official Action. As noted above, claims 29-41 are directed to a method for activating T lymphocytes. The method comprises contacting T lymphocytes with an effective amount of a compound comprising at least one

phosphoepoxide group. The compound has the formula set forth in the claimed invention.

Claims 42-46 are directed to compounds. Moreover, claims 47-61 are directed to a composition comprising the compounds of the claimed invention. Claims 47-61 also recite that the composition is capable of being administered to a primate.

The Examiner's attention is also respectfully directed to new claims 62-81. New claims 62-74 are directed to a method for activating T lymphocytes in primates. New claims 75-81 are directed to a method for activating T lymphocytes in a vertebrate which produces cells sensitive to T lymphocytes. Thus, it is believed that new claims 61-81 are based on an enabling disclosure.

New claims 82-84 are directed to a method of producing the compounds of the present invention. New claims 82-84 correspond to original claims 12-14. Applicants note that claims 12-14 were not subject to the enablement rejection imposed in the outstanding Official Action. As a result, it is believed that claims 12-14 satisfy the recitations of 35 USC §112, first paragraph.

Thus, upon reviewing claims 29-84, it is believed to be apparent that the claims are directed to compounds and methods for activating T<sub>H</sub>1 lymphocytes. Thus, the claims no longer contain the requirements for therapy, disease prevention and

disease curing. Thus, while applicants do not disclaim the therapeutic, preventative and curative utilities of the claimed invention, the claims are directed to compounds and methods for activating Ty982 lymphocytes and are believed to be enabled by the present disclosure.

Indeed, the Examiner's attention is respectfully directed to the specification at page 21, line 18 to page 22, line 25, wherein one the specification teaches how to make and use the claimed compound. The specification teaches how to make and use the claimed invention. The specification teaches how to prepare a composition which can be administered to a primate. The composition comprises an Epoxx PP compound. When administered in effective amounts, the compound is capable of activating Ty982 lymphocytes.

It is true that claims 73-74 recite that the subject has a disease. Moreover, applicants note that claims 75-81 are directed to a method for activating Ty982 lymphocytes in a subject that produces cells sensitive to Ty982 lymphocytes. Applicants note that the claims do not indicate that a pathological condition is prevented or cured.

Thus, it is believed that claims 29-84 satisfy the requirements of 35 USC 112, first paragraph.

Claims 3-9, 11-15, 18-24 were rejected under 35 USC §112, second paragraph, as allegedly being indefinite for failing

to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. It is believed that the present amendment obviates this rejection.

As noted above, claims 3-9, 11-15, 18-24 have been canceled. It is believed that new claims 29-84 have been drafted in a manner that obviates the rejection alleging that the claims are indefinite.

Claims 1, 2, 10, 16, 17, 20, 22, and 23 were rejected under 35 USC §102(b) as allegedly being anticipated by MUEHLBACHER et al. This rejection is respectfully traversed.

In opposing the rejection, the Official Action contends that MUEHLBACHER et al. teach a diphosphoepoxide according to formula (2) of claim 2. Moreover, the Official Action alleges that Applicants submit in the specification at page 5, lines 17-24 that MUEHLBACHER et al. teach a compound of the present invention along with its characteristics.

However, Applicants note that there are distinct differences from the composition taught by MUEHLBACHER et al. relative to the claimed compositions. In particular, MUEHLBACHER et al. fail to disclose or suggest a composition capable of being administered to a primate.

The compounds taught by MUEHLBACHER et al. are prepared as ammonium salts and are toxic. MUEHLBACHER et al. teach that the EpoxPP compositions must be diluted in ammonium bicarbonate

or HEPES (see p. 7322). As a result, the MUEHLBACHER et al. compositions cannot be administered to a primate without creating a toxic effect. Thus, the claimed invention is directed to a distinct and non obvious composition.

Once again, the Examiner's attention is respectfully directed to new claims 29-41. New claims 29-41 are directed to a method for activating T lymphocytes. As MUEHLBACHER et al. fail to disclose or suggest any such utilities for the EpoxPP composition, it is believed that MUEHLBACHER et al. fail to anticipate the claimed invention.

As to new claims 47-61, new claims 47-61 are directed to a composition comprising a compound that activates T lymphocytes. In claims 47 and 48, the compound can be of the formula (1) or (2). However, claims 47-61 recite that the composition comprises a compound that is capable of being administered to a primate. As the compositions taught by MUEHLBACHER et al. are not capable of being administered to a primate, it is believed that MUEHLBACHER et al. fail to anticipate claims 47-61.

Claims 62-81 are also method claims. The methods are directed to activating T lymphocytes in primates and vertebrates. As MUEHLBACHER et al. fail to teach such a utility for the EpoxPP compositions, Applicants respectfully submit that MUEHLBACHER et al. cannot anticipate claims 62-81.

Claims 82-84 are directed to a method for making the compounds of the present invention. It is believed that Claims 82-84 correspond to original claims 12-14. In the outstanding Official Action, claims 12-14 were declared free of prior art by the Examiner. It is believed that claims 82-84 have been drafted in a matter so as to obviate the informalities of claims 12-14 cited by the Official Action. As a result, it is believed that claims 82-84 are allowable.

While claims 42-46 are directed to the compound of the present invention, the compounds are directed to formulas (3), (4), and (5). It is believed that claims 42-46 correspond to claims 3-7. The outstanding Official Action also declared claims 3-7 free of prior art. As it is believed that claims 42-46 have also been drafted in a manner to obviate the informalities recited by the Official Action, it is believed that claims 42-46 are allowable.

Thus, it is believed that MUEHLBACHER et al. cannot anticipate or render obvious the claimed invention.

In view of the present amendment and the foregoing remarks, therefore, it is believed that this application is now in condition for allowance, with claims 29-84, as presented. Allowance and passage to issue on that basis are accordingly respectfully requested.



Entry of the above amendments is earnestly solicited.  
Applicant respectfully requests that a timely Notice of Allowance  
be issued in this case.

Should there be any matters that need to be resolved in  
the present application, the Examiner is respectfully requested  
to contact the undersigned at the telephone number listed below.

The Commissioner is hereby authorized in this,  
concurrent, and future replies, to charge payment or credit any  
overpayment to Deposit Account No. 25-0120 for any additional  
fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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